Jharkhand State Electricity Regulatory

Commission



Order on APR for FY 2023-24 for Inland Power Limited (IPL) July 23, 2024



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List of Abbreviations

Abbreviation	Description	
A&G	Administrative and General	
ARR	Aggregate Revenue Requirement	
CEA	Central Electricity Authority	
COD	Commercial Operation Date	
CFBC	Circulating Fluidized Bed Combustion	
CCL	Central Coalfield Limited	
CIL	Coal India Limited	
ECR	Energy Charge Rate	
FY	Financial Year	
GCV	Gross Calorific Value	
GFA	Gross Fixed Assets	
GHR	Gross Station Heat Rate	
GoI	Government of India	
GoJ	Government of Jharkhand	
IoWC	Interest on Working Capital	
IPL	Inland Power Limited	
JBVNL	Jharkhand Bijli Vitran Nigam Limited	
JSEB	Jharkhand State Electricity Board	
JSERC	Jharkhand State Electricity Regulatory Commission	
JUVNL	Jharkhand Urja Vikas Nigam Limited	
kCal	Kilocalorie	
Kg	Kilogram	
kWh	Kilowatt-hour	
MAT	Minimum Alternative Tax	
ML	Millilitre	
MOU	Memorandum of Understanding	
MT	Million Tonnes	
MU	Million Units	
MW	Megawatt	
MYT	Multi-Year Tariff	
NAPAF	Normative Annual Plant Availability Factor	
O&M	Operations and Maintenance	
PAF	Plant Availability Factor	
PLF	Plant Load Factor	
PPA	Power Purchase Agreement	
R&M	Repair and Maintenance	
RoE	Return on Equity	
Rs.	Rupees	
SBI	State Bank of India	
SERC	State Electricity Regulatory Commission	
SLDC	State Load Dispatch Centre	
SLM	Straight Line Method	



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Before

Jharkhand State Electricity Regulatory Commission, Ranchi

Case (Tariff) No.: 02 of 2024

In the matter of:

Petition for

Annual Performance Review of FY 2023-24

In the matter:

Inland Power Limited (IPL).....Petitioner

PRESENT

Shri Mahendra Prasad Shri Atul Kumar Member (Law) Member (Technical)

Order dated July 23, 2024

Inland Power Limited (hereinafter referred to as 'IPL' or the 'Petitioner') filed Petition dated February 22, 2024 for Annual Performance Review of FY 2023-24, for its business of generation of electricity in the State of Jharkhand.



Chapter 1: Introduction

Jharkhand State Electricity Regulatory Commission

- 1.1 The Jharkhand State Electricity Regulatory Commission (hereinafter referred to as "JSERC" or "the Commission") was established by the Government of Jharkhand under Section 17 of the Electricity Regulatory Commission Act, 1998 on August 22, 2002. The Commission became operational with effect from April 24, 2003.
- 1.2 The Government of Jharkhand vide its notification dated August 22, 2002 had defined the functions of JSERC as per Section 22 of the Electricity Regulatory Commission Act, 1998 to be the following, namely:
 - a) to determine the tariff for electricity, wholesale, bulk, grid or retail, as the case maybe, in the manner provided in Section 29;
 - b) to determine the tariff payable for the use of the transmission facilities in the manner provided in Section 29;
 - c) to regulate power purchase and procurement process of the transmission utilities and distribution utilities including the price at which the power shall be procured from the generating companies, generating stations or from other sources for transmission, sale, distribution and supply in the State;
 - d) to promote competition, efficiency and economy in the activities of the electricity industry to achieve the objects and purposes of this Act.
- 1.3 After the Electricity Act, 2003 came into force, the earlier Electricity Regulatory Commission Act of 1998 stands repealed and the JSERC is discharging its functions as prescribed in Section 86 of the Act.
- 1.4 In accordance with provisions of the said Act, the JSERC discharges the following functions: -
 - a) determine the tariff for generation, supply, transmission and wheeling of electricity, wholesale, bulk or retail, as the case may be, within the State:
 Provided that, where open access has been permitted to a category of consumers under Section 42, the State Commission shall determine only the wheeling charges and surcharge thereon, if any, for the said category of consumers;
 - b) regulate electricity purchase and procurement process of distribution licensees including the price at which electricity shall be procured from the generating companies or licensees or from other sources through agreements



for purchase of power for distribution and supply within the State;

- c) facilitate intra-state transmission and wheeling of electricity;
- d) issue licenses to persons seeking to act as transmission licensees, distribution licensees and electricity traders with respect to their operations within the State;
- e) promote cogeneration and generation of electricity from renewable sources of energy by providing suitable measures for connectivity with the grid and sale of electricity to any person, and also specify, for purchase of electricity from such sources, a percentage of the total consumption of electricity in the area of a distribution licensee;
- f) adjudicate upon the disputes between the licensees and generating companies; and to refer any dispute for arbitration;
- g) levy fee for the purposes of this Act;
- h) specify State Grid Code consistent with the Grid Code specified under Clause(h) of sub-section (1) of Section 79;
- i) specify or enforce standards with respect to quality, continuity and reliability of service by licensees;
- j) fix the trading margin in the intra-state trading of electricity, if considered, necessary;
- k) discharge such other functions as may be assigned to it under this Act.
- 1.5 The Commission advises the State Government on all or any of the following matters, namely:
 - a) promotion of competition, efficiency and economy in activities of the electricity industry;
 - b) promotion of investment in electricity industry;
 - c) reorganisation and restructuring of electricity industry in the State;
 - d) matters concerning generation, transmission, distribution and trading of electricity or any other matter referred to the State Commission by that Government.
- 1.6 The State Commission ensures transparency while exercising its powers and discharging its functions.
- 1.7 In discharge of its functions, the State Commission is guided by the National Tariff Policy framed and published by Government of India under the provisions of Section 3 of the Act. The objectives of the present National Tariff Policy are to: -



- a) ensure availability of electricity to consumers at reasonable and competitive rates;
- b) ensure financial viability of the sector and attract investments;
- c) promote transparency, consistency and predictability in regulatory approaches across jurisdictions and minimize perceptions of regulatory risks;
- d) promote competition, efficiency in operations and improvement in quality of supply.

The Petitioner – Inland Power Limited (IPL)

- 1.8 Inland Power Limited is a company incorporated under the provisions of the Indian Companies Act, 1956. IPL was originally incorporated on June 22, 1993 as a Private Limited Company and was subsequently converted to a Public Limited Company on April 3, 2008.
- 1.9 The Petitioner had signed a Memorandum of Understanding (MoU) with Government of Jharkhand to develop a 126 MW (2x63 MW) thermal power plant based on CFBC technology in two stages in Gola, District Ramgarh, Jharkhand on October, 2011. The Petitioner commissioned its 1st Unit (1x63MW) on May 21, 2014.
- 1.10 As per the provisions of the MoU, the Government of Jharkhand (GoJ) or Distribution Licensees authorized by it, will have the first right of claim on a purchase up to 25% of the power delivered to the system by the proposed power plant. Further, the MoU stipulates that out of the 25% under the first right of refusal to the State, the rate of 12% share will be on variable cost. Pursuant to the MoU signed between GoJ and IPL, IPL signed a Power Purchase Agreement (PPA) with Jharkhand State Electricity Board (now Jharkhand Bijli Vitran Nigam Limited or JBVNL) on February 23, 2012 for supplying 35 MW of 63 MW from 1st Unit of the project on long term basis. Subsequently, IPL signed a supplementary PPA with JSEB (now JBVNL) on April 22, 2013 for purchase and sale of the entire quantity of 63 MW power from the 1st Unit of 63 MW inclusive of quantity mentioned in earlier Principal PPA.

The Petitioner's Prayers

- 1.11 The Petitioner in these Petitions have made the following prayers:
 - a) Admit the petition for APR of FY 2023-24
 - b) Approve the numbers for the APR of FY 2023-24 as discussed in this Petition



- c) Condone any inadvertent omissions/ errors/ rounding off differences/ shortcomings and permit IPL to add/ change/ modify this filing and make further submission as may be at a future date; and
- d) Pass further and such other orders, as the Hon'ble Commission may deem fit and proper, keeping in view the facts and circumstances of the case.



Chapter 2: Procedural History

Background

- 2.1 The Commission had approved the provisional tariff for FY 2014-15 to FY 2015-16 in its MYT Order for FY 2014-15 to FY 2015-16 dated May 27, 2014 based on submission of the anticipated date of Commercial Operation Date (COD) of the plant as May 2014.
- 2.2 Subsequently, the Commission on May 16, 2017 issued a Tariff Order on approval of Capital cost of Unit-1 (1x63MW), True-up of the ARR for the year FY 2014-15, Annual Performance Review for the year FY 2015-16 and Multi Year Tariff for the 2nd Control period from FY 2016-17 to FY 2020-21.
- 2.3 The Commission had issued the True-up Order for FY 2015-16 for Unit-1 (1x63MW) on March 19, 2018 based on audited accounts submitted by the Petitioner.
- 2.4 The Petitioner had filed the review Petition on True-up Order for FY 2015-16 which was disposed off by the Commission on May 13, 2019.
- 2.5 Later, on October 01, 2019, the Commission had issued the True-up Order for FY 2016-17 and FY 2017-18 based on the audited accounts of the respective financial year and methodology adopted in earlier Orders.
- 2.6 Subsequently, the Commission also approved the Annual Performance Review for FY 2018-19 vide its Order dated December 26, 2019.
- 2.7 The Commission had issued the True-up Order for FY 2018-19 on September22, 2020 based on audited accounts submitted by the Petitioner.
- 2.8 Later on November 04, 2022, the Commission had issued the Order on Truingup for FY 2019-20 & APR for FY 2020-21 based on audited accounts submitted by the Petitioner.
- 2.9 Subsequently, the Commission vide Order dated May 22, 2023 had issued the Order for True-up of FY 2020-21.
- 2.10 The Commission vide order dated November 16,2023 had issued the order for Business Plan and Multi Year Tariff for Control Period FY 2021-22 to FY 2025-26.
- 2.11 Subsequently the Commission vide order dated February 26,2024 had issued order for True-up of FY 2021-22.



- 2.12 The Commission vide order dated July 23,2024 had issued order for True-up of FY 2022-23.
- 2.13 The Petitioner in the current Petition, has sought for APR for FY 2023-24.

Disclaimer: Relevant information provided herein regarding the Commission, the Petitioner, and the Procedural History have been extracted/reproduced from the previous Orders of the Commission. This is for information purpose only and does not, in any matter, reflect opinion or analysis thereon.

Information Gaps in the Petition

- 2.14 The Commission has scrutinized the additional data/information submitted by the Petitioner, in response to the discrepancies pointed out and has considered the same while passing this Order.
- 2.15 In order to provide adequate opportunity to all stakeholders and general public as mandated under Section 64 (3) of the Electricity Act 2003 and in relevant provisions of Regulation(s) framed by the Commission and further, in order to ensure transparency in the process of tariff determination, the Commission decided to conduct public hearing on June 11, 2024 in the Meeting Hall of Raso Hotel at Ranchi for inviting comments/suggestion/objection.

Inviting Public Comments/ Suggestions

- 2.16 The Commission has directed the Petitioner to make available copies of the Petition to the members of general public on request, and also issued a public notice inviting comments/ suggestions on the above said Petition.
- 2.17 The aforesaid public notice was issued by the Petitioner in various newspapers and a period of twenty-one (21) days was given to the members of the general public for submitting their comments/suggestions.

S1. No.	Newspaper	Version	Date of Publication
1.	Sanmarg	Hindi	05.03.2024 & 06.03.2024
2.	Ranchi Express	Hindi	05.03.2024 & 06.03.2024
3.	Hindustan Times	English	05.03.2024 & 06.03.2024
4.	Morning India	English	05.03.2024& 06.03.2024

Table 1: List of Newspapers and Dates of Publication of Public Notice By The Petitioner

2.18 Subsequently, the Commission also issued a notice on its website *www.jserc.org* and in various newspapers for conducting a public hearing on the Petition filed by the Petitioner. The newspapers wherein the notice for



public hearing was issued by the Commission are detailed hereunder:

Table 2: List Of Newspapers and Dates of Publication of Public Notice By The Commission				
S1. No.	Newspaper	Version	Date of Publication	
1.	Prabhat Khabar	Hindi	05.06.2024 & 10.06.2024	
2.	Hindustan Dainik	Hindi	05.06.2024 & 10.06.2024	
3.	Times of India	English	05.06.2024 & 10.06.2024	
4.	The Hindustan Times	English	05.06.2024 & 10.06.2024	

Submission of Comments/ Suggestions and Conduct of Public Hearing

- 2.19 The public hearing was held on June 11, 2024 in the Meeting Hall of the Raso Hotel at Ranchi.
- 2.20 Comments/Suggestions on the Petition were received. The Comments/Suggestions of the Public, Petitioner's responses and Commission's views thereon are detailed in **Chapter 4** of this Order.



Chapter 3: Brief Facts of the Petition

APR for FY 2023-24

a) Operational Parameters of Plant

3.1 The summary of operational parameters by the Commission in its MYT order dated November 11, 2023 vis-à-vis actuals as submitted by the Petitioner is provided in the table below:

Table 3: Operational Parameters as submitted by the Petitioner for FY 2023-24

Particulars	Unit	MYT	Petition
Gross Station Heat Rate	kcal/kWh	2902	2,898
Annual Plant Availability Factor	%	82.50	81.57
Auxiliary Energy Consumption	%	10.50	11.81
Secondary fuel oil consumption	ml/kWh	1.00	1.00

b) Annual Revenue Requirement (ARR)

3.2 The Annual Revenue Requirement as approved by the Commission in its MYT order dated November 11, 2023 vis-à-vis actuals as submitted by the Petitioner is provided in the table below:

Table 4: Annual Revenue Requirement as submitted by the Petiti	oner for FY 20)23-24 (Rs.Cr)
Particulars	MYT	Petition
Depreciation	17.59	17.36
Interest on Loan	10.55	2.53
Return on Equity	16.85	18.11
Interest on Working Capital	4.92	7.00
O&M Expenses	27.79	24.52
Water Charge	1.99	1.61
Annual Fixed Cost	79.78	71.13
Annual Fixed Cost after PAF Adjustment	-	-
ARR Publication & fee Expenses	-	-
Tax Paid	-	-
Total Fixed Cost	-	71.13
Energy Cost	109.44	161.55
Energy Charge Rate (Rs./kWh)	2.69	4.12
Annual Revenue Requirement	189.22	232.79



Chapter 4: Public Consultation Process

- 4.1 The Petition filed by the Petitioner evoked responses from several Stakeholders. The Public Hearing at the Meeting hall of Raso Hotel was held on June 11, 2024 to ensure maximum Public participation and transparency wherein Stakeholders put forth their comments and suggestions before the Commission in the presence of the Petitioner. The list of the attendees is attached as **Annexure-I** to this Order.
- 4.2 The Commission has observed that the public notice of the petition was published by the Petitioner to invite comments and suggestions in the month of March 2024 wherein the Petitioner has submitted that it has not received any comments. Moreover, during public hearing the Commission had directed the respective beneficiaries and the Petitioner to provide written submission/comment to the Commission within a week however till date the Commission has not received any comments/suggestions from the beneficiaries of APR for FY 2023-24. Accordingly, the Commission has not incorporated any comments/suggestion raised by beneficiaries during public hearing.



Chapter 5: APR for FY 2023-24

5.1The Commission has referred to clause 8.1 of the JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 which states as follows:

"8.1 The Generating Company shall file APR Petition, for Annual Performance Review along with details of capital expenditure, additional capitalization, sources of financing, operations and maintenance expenditure, actual loan portfolio with the interest paid, along with other components of ARR incurred/projected to be incurred for the year under review, as per timelines stipulated in Section A 39 of these Regulations."

- 5.2 The Petitioner has submitted the Annual Performance Review for FY 2023-24 based on the actual for first six months (April, 2023 to September, 2023) and projected for the second half (October, 2023 to March, 2024) as per provisions of the JSERC Generation Tariff Regulations, 2020 along with the methodology adopted by the Commission in previous orders.
- 5.3 The Commission has carried out APR for FY 2023-23 taking into consideration:
 - a) Actual and projected data as submitted by the Petitioner for FY 2023-24.
 - b) JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020; read with its amendments thereof and;
 - c) Methodology adopted by the Commission in the earlier order.

Operational Performance Parameters

Plant Availability Factor (PAF)

Petitioner's Submission

5.4 The Petitioner had submitted the actual plant availability for the first six months up to September 2023 is lower than the approved values as stated in MYT order dated November 11,2023 and for the next six months the Petitioner has estimated at normative values of 82.5%. The Petitioner has submitted the PAF for the unit for FY 2023-24 as shown in the table below:

Table 5 Plant Availability Factor(%) as submitted by the Petitioner for FY 2023-24					
Particulars	МҮТ	FY2023-24(April-Sep) Actual	FY2023-24(Sep-Mar) Estimated	FY 2023-24 Estimated	
Plant Availability Factor(%)	82.50	80.64	82.50	81.57	



Commission's Analysis

5.5 Clause 6.11 of the JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 along with its amendment stipulates that performance parameters are deemed to be controllable in nature. As such, the Commission, approves the Normative Annual Plant Availability Factor (NAPAF) as per clause 10 of the JSERC (Terms & Conditions for Determination of Generation Tariff) (First Amendment) Regulations, 2023.

Table 6 PAF as approved by the Commission for FY 2023-24

Particulars	MYT	Petition	Approved
Plant Availability Factor(%)	82.50	81.57	82.50

Auxiliary Consumption

Petitioner's Submission

5.6 The Petitioner has submitted the estimated auxiliary consumption for FY 2023-24 as shown in the table below:

Table 7 Auxiliary Consumption(%) as projected by the Petitioner for FY 2023-24

Particulars	МҮТ	FY2023-24 (April-Sep) Actual		FY 2023-24 Estimated
Auxiliary Consumption(%)	10.50	13.12	10.50	11.81

5.7 The Petitioner has also mentioned that the plant runs on CFBC based technology and therefore consumes more auxiliary power than other thermal power plants.

Commission's Analysis

- 5.8 Clause 6.11 of the JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 stipulates that performance parameters are deemed to be controllable in nature. As such, the Commission approves the Normative Auxiliary Consumption as per Regulation A 16 of the JSERC (Terms & Conditions for Determination of Generation Tariff) (First Amendment) Regulations, 2023. Additionally, the Commission approves the projected auxiliary consumption as 11.81% based on the submission of the Petitioner.
- 5.9 Further, the Normative Auxiliary Consumption has been used to calculate the energy charges for the financial year of FY 2023-24.

Table 8: Auxiliary	Consumption(%)	as approved by the (Commission for FY 2023-24

Particulars	MYT	Petition	Approved
Normative Auxiliary Consumption(%)	10.50	-	10.50
Actual Auxiliary Consumption(%)	-	11.81	11.81



Plant Load Factor and Generation

Petitioner's Submission

- 5.10 The Petitioner has projected the Plant Load Factor (PLF) for FY 2023-24 as 80.62% against the target of 82.50% approved by the Commission in the MYT Order dated November 11, 2023.
- 5.11 The Petitioner has further projected the gross generation of the unit as 444.48 MU which is lower than the approved value of 455.30 MU in the MYT Order dated November 11, 2023.

Commission's Analysis

- 5.12 The Commission has scrutinized the detail submitted along with Petition and approves the plant load factor and gross generation as submitted by the Petitioner for FY 2023-24.
- 5.13 Likewise, the Plant Load Factor and Gross Generation as approved by the Commission in the MYT Order, as projected by the Petitioner, and as approved now by the Commission are summarized in the table below.

Table 9: PLF(%) And Generation(MU) as approved by the Commission for FY 2023-24

Particulars	Units	MYT	Petition	Approved
Normative Plant Load Factor	%	82.50	-	82.50
Actual Plant Load Factor	%	-	80.62	80.62
Gross Generation	MU	455.30	444.88	444.88

Gross Station Heat Rate (GHR)

Petitioner's Submission

- 5.14 The Petitioner has submitted the actual GSHR as available with the Petitioner upto September 2023, however the Petitioner has submitted that the SHR for FY 2023-24 is expected to be higher than normative values due to change in fuel mix, use of fuel with high ash etc.
- 5.15 The Petitioner has submitted the estimated Gross Station Heat Rate (GHR) visà-vis that being approved in MYT order dated 11th November 2023 as given in the table below:

Table 10 : GSHR(kCal/kWh) as submitted by the Petitioner for FY 2023-24						
Particulars	МҮТ	FY2023-24 (April-Sep) Actual	FY2023-24 (Sep-Mar) Estimated	FY 2023-24 Estimated		
Gross Station Heat Rate(kCal/kWh)	2902	2894	2902	2897.84		

Table 10 : GSHR(kCal/kWh) as submitted by the Petitioner for FY 2023-24



Commission's Analysis

5.16 Clause 6.11 of the JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2023 stipulates that performance parameters are deemed to be controllable in nature. As such, the Commission, approves the Gross Station Heat Rate in accordance with Regulation A 16 of the JSERC (Terms & Conditions for Determination of Generation Tariff) (First Amendment) Regulations, 2023.

Table 11: GSHR(kCal/kWh) as approved by the Commission for FY 2023-24					
Particulars	MYT	Petition	Approved		
Gross Station Heat Rate(kCal/kWh)	2902.00	2897.84	2897.84		

Specific Fuel Oil Consumption

Petitioner Submission

5.17 The Petitioner had submitted the specific fuel oil consumption as 1.00 ml/kWh in line to JSERC (Terms and Conditions for Determination of Generation Tariff) (First Amendment) Regulations, 2023.

Commission's Analysis

5.18 The Commission observes that the submission made by the Petitioner is in accordance with the Commission's MYT Order dated November 11, 2023 and JSERC (Terms and Conditions for Determination of Generation Tariff) (First Amendment) Regulations, 2023. Hence, the Commission approves the secondary fuel oil consumption as submitted by the Petitioner.

Table 12: Specific Fuel Oil Consumption(ml/kWh) as approved by the Commission for FY 2023-24

Particulars	MYT	Petition	Approved
Specific Fuel Oil Consumption(ml/kWh)	1.00	1.00	1.00

Fuel Cost Parameters

Coal Mix and Gross Calorific Value (GCV) of Primary Fuel

Petitioner's Submission

- 5.19 The Petitioner has submitted that the coal is procured from various sources as mentioned below.
 - E-Auction of Coal India Ltd./ Central Coalfield Ltd.;
 - Coal from Forward Auctions;
 - FSA with Central Coalfield Ltd. under SHAKTI Scheme;
 - Rejects from Tata Steel.



5.20 The Petitioner has further submitted that based on the availability of coal input, the blending ratio of coal and coal rejects deviates significantly from the norms approved by the Commission.

Commission's Analysis

- 5.21 The Commission has observed a significant deviation in the blending ratio, Gross Calorific Value (GCV) of primary fuel-mix and its price as compared to the approved values in MYT Order dated November 11, 2023.
- 5.22 The Commission has also observed that the Petitioner has not considered stacking loss of coal (i.e.85kCal/kg) while computing GCV of primary fuel in the petition.
- The Commission has referred to clause 7.1 of the JSERC (Terms and 5.23 Conditions for Determination of Generation Tariff) (First Amendment) Regulations, 2023 gazetted on 31st October 2023 wherein specific provision of stacking loss has been incorporated for GCV of primary fuel on as received basis less 85kCal/kg on account of variation during storage. Accordingly, the Commission in line with the regulation had allowed stacking loss for the Petitioner in True up order for FY 2021-22 dated 26th February 2024.
- 5.24 Inspite the above aforesaid provisions, the petitioner did not consider the stacking and handling loss of 85kCal/kg while computing the GCV of primary fuel. In this regard the Commission is of the opinion that there is no stacking loss on the part of the Petitioner or the petitioner has considered it in its final GCV submitted. Accordingly, the Commission has not factored the stacking loss separately in the GCV of primary fuel in ECR computation for FY 2023-24.
- 5.25 The Commission has considered the submission made by the Petitioner, including internal auditor's certificate submitted vide 'Annexure No. 8' to the Petition. The Commission has scrutinized monthly source-wise coal consumption for the first six months, duly certified by the internal auditor, as submitted by the Petitioner, and has recalculated the Weighted average GCV of Primary Fuel and approves the coal mix and Gross Calorific Value as shown in the table below:

Table 13: Coal Mix and GCV as approved by the Commission for FY 2023-24					
Particulars	Units	MYT Order	Petition	Approved	
Coal	%	35.00%	19.51%	19.51%	
Coal Rejects	%	65.00%	80.49%	80.49%	
GCV of Coal	kCal/kg	3,680.24	3,753.75	3,753.75	



Particulars	Units	MYT Order	Petition	Approved
GCV of Coal Reject	kCal/kg	1,872.24	2312.81	2,312.81
Weighted average GCV of Primary Fuel	kCal/kg	2,505.04	2,593.87	2,593.87

Transit Loss

Petitioner's Submission

5.26 The Petitioner has considered the transit loss of 1.21% which is higher than that being approved on normative basis *i.e.*, 0.80% as per MYT Order dated November 11, 2023 and as per JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 along with its amendments.

Commission's Analysis

5.27 The Commission has scrutinized the detail along with the information submitted by the Petitioner and approves the transit loss at a normative value of 0.80% as per Clause 17.11 of the JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 along with amendments.

Table 14: Transit Loss(%) as approved by the Commission for FY 2023-24

Particulars	MYT Order	Petition	Approved
Transit Loss(%)	0.80	1.21	0.80

Landed Cost of Primary Fuel

Petitioner's Submission

5.28 The Petitioner has submitted the internal Auditor's Certificate submitted vide 'Annexure No. 9' to the Petition of the first six months of FY 2023-24 for landed cost of primary fuel consumed from different sources. The landed price of primary fuel includes base price of coal, royalty, taxes and duties, transport cost, Clean Energy Cess etc.

Commission's Analysis

- 5.29 The Commission has outlined Clause 17.11 of the JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020, for the approval of landed cost of primary fuel as reproduced below,
 - "17.11 The landed cost of fuel for the month shall include price of fuel corresponding to the grade and quality of fuel inclusive of royalty, taxes and duties as applicable, transportation cost by rail / road or any other means, and, for the purpose of computation of energy charge, and in case of coal/lignite shall be arrived at after considering normative transit and



handling losses as percentage of the quantity of coal or lignite dispatched by the coal or lignite supply company during the month as given below:

Pithead generating stations: 0.2% Non-pithead generating stations: 0.8%

Provided that in case of pit head stations if coal or lignite is procured from sources other than the pit head mines which is transported to the station through rail, transit loss of 0.8% shall be applicable:

Provided further that in case of imported coal, the transit and handling losses shall be 0.2%."

- 5.30 The Petitioner in the Petition, has provided month wise fuel procurement and rate of primary fuel procured, for the first six months duly certified by the internal auditor vide '*Annexure No. 9*' to the Petition and projected the same for the next six months of FY 2023-24.
- 5.31 Considering, the Petitioner's submission and after a due prudent check of the internal auditor Certificate submitted vide 'Annexure No. 9' along with documents submitted to the Petition, the Commission approves the landed cost of primary fuel as given in the table below.

F1 2023-2+			
Particulars	MYT Order	Petition	Approved
Price of Coal	2,726.77	3582.89	3582.89
Price of Coal Reject	1,498.75	3030.85	3030.85
Rate of Primary Fuel before Transit loss	1,928.56	3138.53	3138.53
Transit Loss	0.80%	1.21%	0.80%
Landed Price of Primary Fuel	1,944.11	3,177.05	3,163.84

Table 15: Weighted Average Landed Price of Coal(Rs/MT) as approved by The Commission for FY 2023-24

Calorific value and Landed price of Secondary Fuel

Petitioner's Submission

5.32 The Petitioner has submitted the calorific value and landed price of secondary fuel as 10000kCal/Ltr and Rs. 94,280/kL respectively based on the secondary fuel consumed during the first six months of FY 2023-24 which has been duly certified by internal auditor in Annexure 5 submitted along with the Petitioner. The Petitioner has considered the same value for the next six months of FY 2023-24.

Commission's Analysis

5.33 On scrutinizing & analyzing the data, material and documents on record and



upon a prudent check, the Commission approves the weighted average landed price of secondary fuel as shown below.

Table 16: Calorific value & Landed Price of Secondary Fuel as approved by the Commissionfor FY 2023-24

Particulars	Units	MYT Order	Petition	Approved
Calorific Value of Secondary Fuel	kCal/L	10,000.00	10,000.00	10,000.00
Landed Price of Secondary Fuel	Rs./kL	80,471.31	94,280	94,280

Energy Charge Rate (ECR)

Petitioner's Submission

5.34 The Petitioner had projected the Energy Charge Rate (ECR) as Rs. 4.12/kWh against the approved value in MYT order of Rs.2.69/kWh for FY 2023-24.

Commission's Analysis

- 5.35 As per JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 read along with its amendments, the energy (variable) charge shall cover primary fuel and secondary fuel costs and limestone consumption cost (where applicable), shall be payable by the beneficiary for the total energy scheduled to be supplied to such beneficiary during the calendar month on an ex-power plant basis, at the specified energy charge rate of the month (with fuel price adjustment and limestone adjustment).
- 5.36 Accordingly, the Commission has computed the Energy Charge Rate (ECR) to be charged by the Petitioner as per the formula specified in JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 along with its amendments. The table below details the ECR and Fuel Cost for APR for the financial year as submitted by the Petitioner and as approved by the Commission.

Particulars	UoM	MYT Order	Petition	Approved
Net Generation	MU	407.49	392.34	398.17
Auxiliary Consumption	%	10.50	11.81	10.50
Gross Station Heat Rate	kcal/kWh	2902.00	2,898	2897.84
Specific Oil Consumption	ml/kWh	1.00	1.00	1.00
Calorific Value of Oil	kcal/mL	10.00	10.00	10.00
GCV of Primary Fuel	kCal/kg	3680.24	2593.87	2593.87
Landed Price of Primary Fuel	Rs./Ton	1,944.11	3177.05	3163.84
Landed Price of Secondary Fuel	Rs./kL	80,471.31	94280	94280
Energy Charge Rate (ECR)	Rs./kWh	2.69	4.12	4.04
Total Energy Cost	Rs. Cr.	109.44	161.55	160.90

Table 17: ECR(Rs./kWh) & total energy cost(Rs.Cr) as approved by the Commission for FY 2023-24



Determination of Fixed Cost Additional Capitalization

Petitioner's Submission

5.37 The Petitioner in its petition for APR of FY 2023-24 has not carried out any capitalization nor has done any decapitalization for the period.

Commission's Analysis

5.38 The Commission has noted the submission of the Petitioner and has not considered any capitalization for the period.

Depreciation

Petitioner's Submission

- 5.39 The Petitioner has submitted that depreciation has been calculated as per the depreciation rates provided in Appendix-I of the JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 and considered following principles for determination of depreciation of depreciation mentioned in sections 15.28 to 15.34 of the Regulations.
- 5.40 The Petitioner has considered the opening and closing block of assets and the depreciation for FY 2022-23 has been considered based on the closing block of assets and depreciation for FY 2023-24 as submitted in True-up petition for FY 2022-23. The depreciation estimated by the Petitioner is given in the table below.

Table 18: Depreciation as submitted by the Petitioner for FY	2023-24(Rs. Cr.)	
Particulars	MYT Order	Petition
Depreciation	17.59	17.36

Commission's Analysis

5.41 The Commission has calculated the depreciation for the unit by considering the approved capital cost, capitalization and the depreciation rates as specified in Appendix-I of the JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020. The following table shows the depreciation approved by the Commission.

Table 19: Depreciation as approved by the Commission for FY 2023-24 (Rs.Cr.)			
Particulars	MYT Order	Petition	Approved
Total Depreciation	17.59	17.36	17.34



Operation and Maintenance Expenses & Water Charges

Petitioner's Submission

- 5.42 The Petitioner has submitted that the actual and estimated O&M expenses have varied from the number approved by the Honourable Commission. The Petitioner stated that the reason for this variation is change in fuel mix, increase in ash handling and disposal charges due to high ash generated due to change in fuel mix.
- 5.43 The estimated O&M expenses as submitted by the Petitioner for FY 2023-24 is shown in the table below:

Table 20 O&M expenses as estimated by the Petitioner for FY 2023-24(Rs.Cr)

Particulars	MYT Order	Petition
Normative O&M expenses	27.79	24.52

- 5.44 The Petitioner has further estimated water charge as Rs.1.61 Cr. The Petitioner has also submitted that the price for drawing water is set by Damodar Valley Corporation and total water consumption is based on actual plant operation.
- 5.45 The Petitioner has also submitted that as per the Tariff notification issued by DVC the water tariff is expected to increase by 10% annually for the ensuing years.
- 5.46 In view of the reasons stated above, the Petitioner has submitted the projected water charges for FY 2023-24 as shown in the table below.

Table 21: O&M Expenses as submitted by the Petitioner for FY 2023-24 (Rs.Cr.)

Particulars	MYT Order	Petition
Water Charges	1.99	1.61

Commission's Analysis

- 5.47 The Commission has observed that the Petitioner has submitted actual and estimated O&M expenses which has variation due to variation in change in fuel mix, increase in ash handling and disposal charges due to high ash generated due to change in fuel mix.
- 5.48 On Scrutinizing & analyzing the material, data, information on record the Commission approves the O&M expenses(excluding terminal benefits) and water charges for FY 2023-24 as shown in the table below:

Table 22: O&M expenses as approved by the Commission for FY 2023-24(Rs.Cr)				
Particulars MYT Order Petition Approved				
O&M expenses	27.56	24.52	27.56	
Water charges	1.99	1.61	1.61	



Interest on Loan

Petitioner's Submission

5.49 The Petitioner, for computing interest on loan, has considered the actual loan portfolio and repayment equal to the actual repayment by the Petitioner for estimating the interest and financing charges on loan for the financial year. The Petitioner has submitted the Interest certificate issued by the Banks in support of interest rate and interest paid by the Petitioner in the financial year.

Table 23: Interest on Loan as submitted by the Petitioner for FY 2023-24 (Rs.Cr.)

Particulars	MYT Order	Petition
Opening Debt Balance	100.18	39.51
Net Additions	1.96	0.00
Repayment	17.59	18.73
Closing Debt Balance	84.55	20.77
Rate of Interest (%)	11.42%	9.92%
Interest on Loan	10.55	2.52
Bank Charges	-	0.01
Interest on Loan and Finance Charges	-	2.53

Commission's Analysis

- 5.50 The Commission has considered the opening balance of normative debt for FY 2023-24 as closing balance for FY 2022-23 as per the True-up Order dated July 23, 2024.
- 5.51 The Commission has observed that the Petitioner has considered the actual repayment against the norms which states that the repayment shall be equal to the depreciation allowed for that respective financial year. Accordingly, the Commission approves the repayment equal to the approved depreciation in accordance with clause 15.15 of the JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 to arrive at the closing balance of normative debt component.
- 5.52 The Commission has computed the weighted average rate of interest based on the actual loan portfolio as submitted by the Petitioner. The Commission has considered the addition to loan based on a normative debt: equity ratio of 70: 30 on the approved additional capitalization however as no capitalization has been projected by the Petitioner hence the Commission has considered addition in loan as nil for APR of FY 2023-24.
- 5.53 In accordance with the methodology stated above, the Commission has computed the interest on loan as shown in the table below.



Particulars	MYT Order	Petition	Approved
Opening Debt Balance	100.18	39.51	97.68
Net Additions	1.96	0.00	0.00
Repayment	17.59	18.73	17.34
Closing Debt Balance	84.55	20.77	80.34
Average	92.37	-	89.01
Rate of Interest (%)	11.42%	9.92%	4.57%
Interest on Loan	10.55	2.52	4.07
Bank Charges	-	0.01	-
Interest on loan with Bank charges	-	2.53	4.07

Table 24: Interest on Loan as approved by the Commission for FY 2023-24(Rs.Cr.)

Interest on Working Capital

Petitioner's Submission

5.54 The Petitioner has estimated normative Interest on Working Capital based on Regulation 15.23 of JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 and has requested the Commission to approve the same for the financial year.

Table 25: Interest on Working Capital as submitted by the Petitioner for FY 2023-24 (Rs.Cr.)			
Particulars	MYT Order	Petition	
Interest on Working Capital	4.92	7.00	

Commission's Analysis

- 5.55 The Commission has referred to clause 15.23 of the JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations,2020 for consideration of the components for determination of Working capital requirement.
- 5.56 The Commission has considered interest on Working Capital as 10.50% as per the 1st proviso of Clause 15.26 of JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020.The Interest on Working Capital as approved by the Commission for FY 2023-24 is shown in the table below:

Table 26: IoWC as approved by the Commission for F	Y 2023-24 (Rs.	Cr.)	
Particulars	MYT Order	Petition	Approved
Coal Cost for 50 Days	14.49	21.56	21.47
Cost of Secondary Fuel Oil for 2 Months	0.61	0.70	0.70
O&M Expenses for 1 month	2.48	2.18	2.43
Maintenance Spares (20% of O&M)	5.96	5.23	5.83
Receivables for 45 Days	23.33	28.70	29.01
Total Working Capital	46.87	58.36	59.44
Rate of Interest	10.50%	12.00%	12.05%
Interest on Working Capital	4.92	7.00	7.16

Table 26: IoWC as approved by the Commission for FY 2023-24 (Rs. Cr.)

Return on Equity

Petitioner's Submission

5.57 The Petitioner has estimated post tax Return on Equity at 15.00% in



accordance with the JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, (First Amendment)2023 on opening equity base of Rs. 99.63 Cr. The Petitioner has submitted that the actual tax shall be claimed separately during True-up for FY 2023-24.

Table 27: ROE as submitted by the Petitioner for FY 2023-24(Rs Cr.)

Particulars	MYT Order	Petition
Opening Equity	92.73	99.63
Addition during the Year	0.84	0.00
Closing Equity	93.57	99.63
Average Equity	93.15	99.63
Rate of ROE	15.00%	15.00%
Applicable MAT Rate	17.47%	-
Net Rate of ROE	18.18%	-
Return on Equity	16.93	18.11

Commission's Analysis

- 5.58 The Commission has considered the closing equity as approved by the Commission in True-up for FY 2022-23 as the opening equity for FY 2023-24. The Commission has also noted the submission of Petitioner for computation of tax component as per actuals during True up.
- 5.59 In accordance with Clause 15.9 to Clause 15.10 of the JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 read along with its amendment, the Commission has approved the rate of return on equity at 15.00% as shown in the table below.

Particulars	MYT Order	Petition	Approved
Opening Equity	92.73	99.63	91.54
Addition during the Year	0.84	0.00	0.00
Closing Equity	93.57	99.63	91.54
Average Equity	93.15	99.63	91.54
Rate of ROE	15.00%	15.00%	15.00%
Applicable MAT Rate	17.47%	-	-
Net Rate of ROE	18.18%	-	-
Return on Equity	16.93	18.11	16.64

Table 28: ROE as approved by the Commission for FY 2023-24(Rs. Cr.)

Other Expenses

Petitioner's Submission

5.60 The Petitioner has submitted that expenses like income tax, APR publication and filing fee expenses shall be claimed on actuals during True-up for FY 2023-24 post actual payment of these items, brief of which is summarized below:

Table 29: Other Charges as submitted by the Petitioner for FY 2023-24(Rs.Cr)			
Particulars	MYT Order	Petition	
ARR Publication and Fee Expenses	-	0.11	



Commission's Analysis

5.61 The Commission has taken a note on the submission of the Petitioner and shall consider the same during actual submission for True-Up of FY 2023-24.

Total Fixed Charges

Petitioner's Submission

5.62 The summary of Fixed Charge projected by the Petitioner for APR of FY 2023-24 is shown in the table below:

Table 30: Total	Fixed charges as	submitted by	the Petitioner f	for FY 2023-24(Rs.Cr)
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Particulars	MYT Order	Petition
O&M Expenses	27.56	24.52
Depreciation	17.59	17.36
Interest on Loan	10.55	2.53
Return on Equity	16.93	18.11
Interest on Working Capital	4.92	7.00
Water Charges	1.99	1.61
Annual Fixed Charges	79.53	71.13

Commission's Analysis

5.63 The summary of Fixed Charge as approved by the Commission for APR of FY 2023-24 is shown below.

Table 31: Total Fixed	Charges as a	approved by th	e Commission for	r FY 2023-24(Rs. Cr.)

Particulars	MYT Order	Petition	Approved
O&M Expenses(Excluding terminal Liability)	27.56	24.52	27.56
Depreciation	17.59	17.36	17.34
Interest on Loan	10.55	2.53	4.07
Return on Equity	16.93	18.11	16.64
Interest on Working Capital	4.92	7.00	7.32
Water Charges	1.99	1.61	1.61
Annual Fixed Charges	79.53	71.13	74.39

Summary of ARR Components

Petitioner's Submission

5.64 The summary of ARR Components as submitted by the Petitioner for FY 2023-

24 is shown in the table below:

Table 32:Summary of ARR Components as submitted by the Petitioner for FY2023-24(Rs. Cr.)			
Particulars	MYT Order	Petition	
Total Fixed Charges	79.78	71.13	
Energy Charge Rate (ECR)(Rs/kWh)	2.69	4.12	
Total Energy Cost	109.44	161.55	
Annual Revenue Requirement	189.22	232.79	

Commission's Analysis

5.65 The summary of ARR Components as approved by the Commission for FY



2023-24 is shown in the table below:

Table 33:Summary of ARR as approved by the Commission for FY 2023-24 (Rs. Cr.)			
Particulars	MYT Order	Petition	Approved
Total Fixed Charges	79.78	71.13	74.39
Energy Charge Rate (ECR)	2.69	4.12	4.04
Total Energy Cost	109.44	161.55	160.90
Annual Revenue Requirement	189.22	232.79	235.39

5.66 The Commission has conducted the Annual Performance Review (APR) based on the un-audited accounts for FY 2023-24 and the additional data presented by the Petitioner. However, the same shall be revisited while proceeding of True-up for FY 2023-24 based on audited accounts, and in accordance with the provisions of the JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 along with its amendments.



Chapter 6: Directives

Development of fuel procurement plan

6.1 The Commission directs the Petitioner is directed to develop a fuel procurement plan and explore options with its suppliers in order to reduce the cost of coal. The Petitioner should prioritize the procurement of primary fuel from the least cost source.

Timeliness and Data Adequacy in the Next Tariff Petition

6.2 The Commission directs the Petitioner to file the next tariff Petition, after removing deficiencies highlighted in this Tariff Order. The Petitioner should ensure that the data submitted to the Commission is accurate and justified with adequate certification. The Commission also directs the licensee to ensure submission of the next tariff petition within the time frame as stipulated in the JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020, read with its amendments thereof.

This order is signed and issued by the Jharkhand State Electricity Regulatory Commission on **July 23, 2024.**

Date: 23.07.2024 Place: Ranchi

Sd/-(Atul Kumar) Member (Technical) Sd/-(Mahendra Prasad) Member (Law)



ANNEXURE - I

List of participants in the Public Hearing

S1. No	Name	Address/Organization
1	Mr. Ujjwala K. Gunia	Jharkhand Bijli Vitran Nigam Ltd.
2	Mr.Sanjay Kumar Singh	GM(Admin),IPL
3	Mr. Dhiresh Kumar	Ranchi
4	Mr. Gaurav	Harmu
5	Mr. Sujoy Kumar Das	Inland Power Ltd. (Consultant, Deloitte)
6	Mr. Anindya Sengupta	Inland Power Ltd.
7	Mr. Rajesh	IPL,Ranchi
8	Mrs. Anita Prasad	Jharkhand Bijli Vitran Nigam Ltd.
9	Mr. R.K. Tripathy	JBVNL (Consultant, PwC)
10	Mr. Amit Kr. Chaudhary	101 A, Ratnawali Appt, Lalpur, Ranchi
11	Dr. Binnu Kumar	Doranda, Ranchi
12	Mr. Anand Bardia	Inland Power Ltd.
13	Mr. Birendra Kisku	Jharkhand Bijli Vitran Nigam Ltd.
14	Ms. Shivani Kumari	Namkum,Inland Power Ltd.
15	Mr. Ravishankar Kumar	Jharkhand Bijli Vitran Nigam Ltd.
16	Mr.Soundarya Prakash	Doranda,Ranchi
17	Mr.Giriraj Kumar Jhawar	Inland Power Limited
18	Shailendra Nath Sinha	IPL
19	Rajeev Ranjan	JUSNL
20	Gaurav Kumar	JUSNL
21	Sandhya	Bootimore,Ranchi
22	Gaurav Lohani	JUSNL
23	Akhilesh Mishra	JUSNL
24	Shipra Sinni	JBVNL(Consultant,PWC)
25	Shashi Bhushan Kumar	JBVNL